WHAT IS CLAIMED IS:

1. A micro-electro-mechanical (MEMS) device comprising:

a) a component layer having a frame and at least one component movably connected to the frame;

b) an actuator layer having at least one conductive path and at least one actuator for moving the component;

c) at least one spacer to separate the component layer and the actuator layer by a vertical gap spacing, the spacer optionally being separate from or part of the component layer and/or the actuator layer; and

d) at least one resilient member coupled to the component layer and the actuator layer, wherein the component layer, spacer and actuator layer are held in laterally-aligned and vertically spaced relation by resilient force from the resilient member.

2. The MEMs device of claim 1 wherein the component layer and the actuator layer have facing surfaces, each having a planar configuration.

3. The MEMs device of claim 1 wherein the component layer or the actuator layer has a mesa configuration.

4. The MEMs device of claim 1 wherein the component layer, the spacer, and the actuator layer are laterally self-aligned by alignment slots, protruding features, or stepped edges present in one or more of the layers.

5. The MEMs device of claim 1 wherein the spacer aerodynamically isolates the mirror by blocking at least 20% of the peripheral area underlying the component.

6. The MEMs device of claim 1 wherein the component is a mirror.

7. The MEMs device of claim 1 wherein the actuator layer has a mirror image pattern of the component layer.

8. The MEMs device of claim 1 wherein the component layer comprises single crystal silicon.

9 The MEMs device of claim 1 wherein the component layer comprises polycrystalline silicon.

10. The MEMs device of claim 1 wherein the component is a mirror comprising a coating of metal.

11. The MEMs device of claim 1 wherein the spacer has a coefficient of thermal expansion (CTE) different from the component layer and the actuator layer by not more than 50%.

12. The MEMs device of 11 wherein the spacer comprises a material selected from the group consisting of Si, Mo, W, Zr, Hf, Ta, Ti, Fe-Ni alloys or Fe-Co-Ni alloys.

13. The MEMs device of claim 1 wherein the range of resilient coupling is at least 5 micrometers.

14. The MEMs device of claim 1 wherein the spacer is comprised of ferromagnetic material.

15. The MEMs device of claim 1 wherein a transparent plate is disposed overlying the component layer.

16. The MEMs device of claim 1 wherein the spacer includes walls defining a cavity below the component and the walls are conductive to electrostatically isolate the component.

17. The MEMs device of claim 16 wherein the walls substantially cover the peripheral area around the cavity to aerodynamically isolate the cavity.

18. The MEMs device of claim 1 wherein the resilient member is coupled to the component layer or the actuator layer by bonding.

19. The MEMs device of claim 1 wherein the resilient member is coupled to the component layer or the actuator layer by solder bonding, fusion bonding, glass frit bonding or adhesive bonding.

20. The MEMs device of claim 1 wherein the resilient member is coupled to the component layer or the actuator layer by resilient compressive force.

21. The MEMs device of claim 1 further comprising a stiffening frame disposed over the component layer.

22. The MEMs device of claim 1 wherein the resilient member is hermetically sealed to the actuator layer.

23. MEMs device of claim 15 wherein the resilient member is hermetically sealed to the actuator layer and the transparent plate to hermetically package the MEMs device.

24. A method of assembling a MEMS device at ambient temperature comprising the steps of:

a) providing a component layer comprising a frame and at least one movable component movably coupled to the frame;

b) providing an actuation layer which contains at least one actuator for moving the movable component;

c) disposing a spacer between the component layer and the actuator layer so as to provide a predetermined vertical spacing gap between them, the spacer optionally being separate from or part of the mirror layer and/or the actuator layer; and

d) coupling at least one resilient member to the component layer and the actuator layer to hold the component layer, the spacer and the actuator layer together by resilient force.

25. The method of claim 24 wherein the of component layer and the actuator layer each have facing surfaces in a planar configuration.

26. The method of claim 24 wherein at least one of the component layer and the actuator layer has a mesa configuration.

27. The method of claim 24 wherein the component layer comprises a plurality of components comprising movable mirrors.

28. The method of claim 27 wherein the spacer forms a cavity between at least one mirror and its actuator, the cavity having walls blocking at least 20% of the peripheral area around the cavity.

29. The method of claim 24 wherein the component layer comprises single crystal silicon.

30. The method of claim 24 wherein the component layer comprises polycrystalline silicon.

31. The method of claim 24 wherein the spacer has a coefficient of thermal expansion (CTE) different from that of the component layer and the actuator layer by not more than 50%.

32. The method of claim 31 wherein the spacer material is selected from the group consisting of Si, Mo, W, Zr, Hf, Ta, Ti, Fe-Ni alloys or Fe-Co-Ni alloys.

33. The method of claim 24 wherein the assembly is performed at ambient temperature.

34. An improved optical power gain equalizer system for dynamically reducing the variation of optical signal strength comprising a MEMs device according to claim 6.

35. An improved wavelength division multiplexing telecommunication system comprising a MEMs device according to claim 6.

36. An improved light signal switch for an optical telecommunication system comprising a MEMs device according to claim 6.

37. An improved variable optical attenuator for an optical telecommunication system comprising a MEMs device according to claim 6.